

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

ORDER NO. 01-088

WASTE DISCHARGE REQUIREMENTS  
FOR  
BASIN WATER TECHNOLOGY GROUP, OWNER  
HI-DESERT WATER DISTRICT, OPERATOR  
DISCHARGE OF WASTEWATER TO BASINS/PONDS  
Yucca Valley - San Bernardino County

The California Regional Water Quality Control Board, Colorado River Basin Region finds that:

1. On January 17, 2001, Basin Water Technology Group, Owner, 3 Corporate Plaza, #203, Newport Beach, California 92660 and Hi-Desert Water District, Operator, 55-439 29 Palms Highway, Yucca Valley, California 92284 (hereinafter referred to as the discharger) submitted an application for discharge of non-hazardous industrial wastewater into two (2) lined evaporation basins. The site is located within the City of Yucca Valley, Yucca Valley North Quad, Section 35, Township 1 North, Range 5 East, SBB&M.
2. This facility is designed to treat groundwater with high concentrations of nitrate for potable water. Groundwater from three wells is pumped to the nitrate treatment plant, and treated water is pumped into the local water distribution system to supplement the existing water supply. The resulting brine and nitrate residues collected at the bottom of two (2) lined basins are periodically removed and disposed of in an appropriate offsite waste management unit.
3. The discharger states that the facility will have an average treated flow rate of 800 gallons-per-minute (gpm), with a total treated daily treated flow of 1.152 million gallons-per-day (mgd). The facility generates approximately 0.5% of the treated flow, 5,760 gallons-per-day, as brine wastes which flow into two (2) double lined evaporation basins which have a total surface area of 1.23 acres.
4. The discharger states that some active or potentially active faults are known in the project area. The nearest active faults include the Johnson Valley, Eureka Peak and Burnt Mountain Faults. The most recent major earthquake affecting the project area was the 1992 Landers Earthquake, which had a magnitude of 7.3 on the Richter scale and an epicenter approximately six miles north of Yucca Valley.
5. The discharger states that the groundwater table is approximately 300 feet below the surface. The three source wells have nitrate concentrations of 50, 15 and 60 parts per million (ppm) N. Also, the average Total Dissolved Solids (TDS) of these groundwater wells is 281 mg/L<sup>1</sup>.
6. The Yucca Valley/Twenty-nine Palms area is part of the Great Basin Section of the Basin and Range physiographic province (McPhee, 1981). Principal landform features consist of mountain ranges, hills, alluvial fans, drainage, playas, and lava flows. The largest mountain range within the basin is the Bullion Mountains. Soils from Yucca Valley/Twenty-nine Palms are classified as gravelly fine sand and gravelly very fine sand. Several large northwest-trending faults and numerous small ones cross the area. The Emerson, Surprise Spring, and

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<sup>1</sup> Mg/L= milligram-per-Liter

Mesquite faults act as groundwater barriers.

7. The geology of the Yucca Valley/Twenty-nine Palms area consists of predominately extrusive and intrusive igneous with some sedimentary and metamorphic materials. The extrusive igneous rock is mostly basalt, such as the Pisgah and Sunshine lava flows located on the north and southwest sides of the Lavi Lake. Other extrusive rock includes andesite tuff and andesite breccia (Bullion Mountains). The predominant intrusive igneous rock includes biotite quartz monzonite, which makes up a significant portion of the Bullion Mountains. The predominant sedimentary rocks are fanglomerates (consolidated alluvial fan deposits), conglomerates, and sandstone. Metamorphic gneissic materials are scattered amongst the igneous rock.
8. The Water Quality Control Plan for the Colorado River Basin Region of California (Basin Plan) was adopted May 15, 1991 and designates the beneficial uses of ground and surface waters in this region.
9. The beneficial uses of ground waters in the Joshua Tree Hydrologic Unit are:
  - a. Municipal supply (MUN)
  - b. Industrial supply (IND)
10. The State Water Resources Control Board adopted Order No. 91-13-DWQ (General Permit No. CAS000001), as amended by Water Quality No. 92-12-DWQ, specifying waste discharge requirements for discharges of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent by industries to be covered under the Permit.
11. Federal regulations for storm water discharges were promulgated by the U.S. Environmental Protection Agency on November 16, 1990 (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities which discharge storm water associated with industrial activity to obtain NPDES permits and to implement Best Conventional Pollutant Technology (BCT) to reduce or eliminate industrial storm water pollution.
12. The Board has notified the discharger and all known interested agencies and persons of its intent to issue this WDR permit and waste discharge requirements for the discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.
13. The Hi-Desert Water District (The District) as lead agency, adopted a Negative Declaration at their December 6, 2000 Board Meeting. On the basis of an evaluation of all environmental impacts, the finding of the District was that the proposed project could not have a significant effect on the environment and a Negative Declaration was approved.
14. The Board, in a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the provisions of the Federal Clean Water Act, and regulations and guidelines adopted thereunder, the discharger shall comply with the following:

A. Specifications

1. The treatment or disposal of wastes at this facility shall not cause pollution or nuisance as defined in Section 13050 of Division 7 of the California Water Code.

2. A minimum depth of freeboard of two (2) feet shall be maintained at all times in the ponds.
3. The facility shall be protected from any washout or erosion of the ponds or covering material, and from inundation, which could occur as a result of floods having a predicted frequency of once in 100 years.
4. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
  - a. An erosion control program should ensure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
5. The inside depth of each pond shall provide:
  - a. Sufficient depth to provide for normal water level variation throughout the year due to variations in rainfall and evaporation rates, assuming a 10% reduction in the evaporation rate at a minimum (17 inches);
  - b. Sufficient additional depth to provide for an increase in water level during pond maintenance, assuming one basin will require maintenance for a two-month period at a minimum (21 inches).
  - c. Sufficient additional depth to provide for the 100-year rainfall on top of the maximum water level resulting from water level variations at a minimum (6 inches);
  - d. Sufficient additional freeboard above the maximum water level to provide the greater of 24-inches or the height of the wind wave run-up plus 12 inches.
6. Each pond shall be double lined. A leak detection and removal system shall be installed between the liners. The lower liner shall be a composite liner consisting of at least 12 inches of clay with a hydraulic conductivity of no greater than  $1 \times 10^{-6}$  cm/sec or equivalent and a flexible membrane liner of 60 mil high density polyethylene (HDPE) or equivalent. The upper liner shall also be a flexible membrane liner of 60 mil HDPE or equivalent.
7. Vadose zone monitoring shall be installed as described in Title 27 of the California Code of Regulations.
8. There shall be no additional discharge of liquid wastes at this site unless approved by the Regional Board's Executive Officer.
9. The discharger shall implement the attached Monitoring and Reporting Program No. 01-088 and rescissions thereto in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the unit or unreasonable impairment of beneficial uses associated with (caused by) discharges of waste to the unit.
10. The discharger shall use the water supply wells for monitoring as set forth in the Monitoring and Reporting No. 01-088 and revisions thereto which is attached to this Order.
11. The discharger shall submit a Water Quality and Response Plan as described in Title 27 of the California Code of Regulations. The plan shall be submitted within 60 days after the adoption of this Board Order.

## B. Prohibitions

1. The direct discharge of any wastes to any surface waters or surface drainage courses is prohibited.
2. The discharge of waste to land not owned or controlled by the discharger is prohibited.
3. The discharge or deposit of hazardous waste (as defined in Chapter 15) at this site is prohibited.
4. The discharger shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the unit if such waste constituents could migrate to waters of the state, in either the liquid or the gaseous phase, and cause a condition of contamination or pollution.
5. The discharge shall neither cause nor contribute to the contamination or pollution of groundwater via the release of waste constituents in either liquid or gaseous phase.

## C. Provisions

1. The discharger shall comply with "Monitoring and Reporting Program No. 01-088", and future revisions thereto, as specified by the Regional Board's Executive Officer.
2. Prior to any modifications in this facility which would result in material change in the quality or quantity of wastewater treated or discharged, or any material change in the location of discharge, the discharger shall report all pertinent information in writing to the Regional Board and obtain revised requirements before any modifications are implemented.
3. Prior to any change in ownership or management of this operation, the discharger shall transmit a copy of this Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Board.
4. The discharger shall ensure that all site-operating personnel are familiar with the content of this Board Order, and shall maintain a copy of this Board Order at the site.
5. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
6. Facilities shall be available to keep the plant in operation in the event of commercial power failure.
7. The discharger shall allow the Regional Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:
  - a. Enter upon the premises regulated by this Board Order, or the place where records must be kept under the conditions of this Board Order;
  - b. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this Board Order;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and

- d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code, any substances or parameters at this location.
8. The discharger shall comply with all of the conditions of this Board Order. Any noncompliance with this Board Order constitutes a violation of the Porter-Cologne Water Quality Control Act and is grounds for enforcement action
9. The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the discharger to achieve compliance with this Board Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a discharger only when necessary to achieve compliance with the conditions of this Board Order
10. The discharger shall comply with the following:
  - a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
  - b. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Board Order, and records of all data used to complete the application for this Board Order, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Board's Executive Officer at any time.
  - c. Records of monitoring information shall include:
    1. The date, exact places, and time of sampling or measurements;
    2. The individual(s) who performed the sampling or measurements;
    3. The date(s) analyses were performed;
    4. The individual(s) who performed the analyses;
    5. The analytical techniques or methods used: and
    6. The results of such analyses.
  - d. Monitoring must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Board Order.
11. Unless otherwise approved by the Regional Board's Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants", promulgated by the United States Environmental Protection Agency.
12. All regulated disposal systems shall be readily accessible for sampling and inspection.
13. The discharger shall provide an inventory of all hazardous materials, which will be handled at the facility within 60 days of adoption of this Board Order.

14. The discharger is the responsible party for the Waste Discharge Requirements and the Monitoring and Reporting Program for the facility. The discharger shall comply with all conditions of these Waste Discharge Requirements. Violations may result in enforcement actions, including Regional Board Orders or court orders, requiring corrective action or imposing civil monetary liability or in modification or revocation of these Waste Discharge Requirements by the Regional Board.
15. All maintenance performed shall be reported with the monitoring reports as required.
16. The discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such reports shall be submitted in accordance with the specifications prepared by the Regional Board's Executive Officer. Such specifications are subject to periodic revisions as may be warranted.
17. The discharger shall allow the Regional Board's Executive Officer, or his/her authorized representative, to sample or monitor influent, effluent, and sludge for the purposes of determining compliance with this Board Order and other applicable requirements regarding sludge use and disposal.
18. The discharger may be required to submit technical reports as directed by the Regional Board's Executive Officer.
19. The discharger shall develop and implement a Storm Water Pollution Prevention Plan for this facility. The plan must be submitted to the Regional Board's Executive Officer for review and approval no later than 90 days after adoption of this Board Order.
20. All storm water discharges from this facility must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies, regarding discharges of storm water to storm water drain systems or other courses under their jurisdiction.
21. The discharger shall submit a Notice of Intent (NOI) to the State Water Resources Control Board to be covered under the Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities, Order No. 91-13-DWQ (as amended by Order No. 92-12-DWQ), NPDES No. CAS000001. The discharger shall comply with all the discharge prohibitions, receiving water limitations, and provisions of the General Permit, including the development and implementation of a Storm Water Pollution Prevention Plan. The Storm Water Pollution Prevention Plan shall be submitted to the Regional Board's Executive Officer for review and approval no later than 90 days after the adoption of this Board Order.
22. All containment structures and erosion and drainage control systems shall be designed and constructed under direct supervision of a California Registered Civil engineer or Certified Engineering Geologist, and shall be certified by the individual as meeting the prescriptive standards and performance goals pursuant to Title 27 Regulations.
23. In-place permeabilities of liners shall be determined in the field using techniques approved by the Regional Board's Executive Officer. Construction methods and quality assurance procedures shall be sufficient to ensure that all parts of the liners are adequate to contain brine waste.
24. Each disposal cell shall have a leachate collection and removal system. The Leachate collection removal system shall be designed and operated to keep leachate levels at the minimum. Leachate collected shall be disposed of in accordance with local, state and federal regulations.

25. This Board Order is subject to Regional Board review and updating, as necessary to comply with changing State or Federal laws, regulations, policies, or guidelines, or changes in the discharge characteristics.
26. The discharger shall obtain and maintain a Financial Assurance Instrument. This financial assurance shall be submitted for the Executive Officer's approval within 60 days of adoption of this Board Order.

I, Philip A. Gruenberg, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on June 27, 2001.

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Executive Officer